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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/530,955	05/16/2000	Nobuyuki Hishinuma	0145-152	3358

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08/19/2003

EXAMINER

QUASH, ANTHONY G

ART UNIT PAPER NUMBER

2881

DATE MAILED: 08/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/530,955

Applicant(s)

NOBUYUKI HISINUNA ET AL

Examiner

Anthony Quash

Art Unit

2881

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 15 May 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 6-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 6-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 9.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

***Claim Rejections - 35 USC §.103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6-7, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koji [JP 079] in view of Sukeyoshi [JP 468] and further in view of Shi [050]. As per claims 6,12 Koji [JP 079] teaches an ultraviolet illumination equipment comprising a receptacle (21) with a window (19), a dielectric-barrier discharge lamp (7) located within the receptacle (21) for emitting ultraviolet radiation through the window (19) of the receptacle (21). See Koji [JP 079] abstract, figs. 1,4-6, and pages, 1-3. However, Koji [JP 079] does not specifically teach heating means for preventing formation and accumulation of debris on the window. Sukeyoshi [JP 468] teaches heating means (9) adjacent to the window (which will also heat the window through conduction) for heating the space around the substrate. See Sukeyoshi [JP 468] abstract, figs. 1-4, and pages 1 and 2. However, Sukeyoshi [JP 468] does not explicitly state that the heating means should be used for heating the window for the preventing the accumulation of debris on the window. Shi [050] does teach that it was know to heat the window in order to prevent the accumulation of debris on the window. Shi [050] also states that the heating means can be installed adjacent to the window. See Shi [050] abstract, fig. 1, col. 4 lines 5-26. Therefore, it would have been obvious to a person of ordinary skill in

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the art at the time the invention was made to use the heating means of Sukeyoshi [JP 468] in order prevent the accumulation and adhesion of debris to the window and walls as taught in Shi [050]. In addition, Sukeyoshi [JP 468] teaches a heater (9) to heat the window to at least 100 degrees Celsius. See Sukeyoshi [JP 468] abstract, figs. 1-4, and pages 1 and 2.

As per claim 7, Sukeyoshi [JP 468] teaches the heating means (9) being provided within the receptacle. See Sukeyoshi [JP 468] abstract, figs. 1-4, and pages 1 and 2.

Claims 8-11,13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koji [JP 079] in view of Sukeyoshi [JP 468] further in view of Shi [050] and further in view of Hiramoto [158]. As per claims 8,13, Koji [JP 079] in view of Sukeyoshi [JP 468] and further in view of Shi [050] teach all aspects of the claim except for the heating means being a thick-film heater positioned on a surface window. However, Hiramoto [158] does teach the heating means being a thick-film heater (19) positioned on a surface window (23,24). See Hiramoto [158] figs. 7,9-10, col. 10 lines 5-20 and col.13 lines 20-35. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the heating means being a thick-film heater (19) positioned on a surface window (23,24) in order to aid in directing the ultraviolet rays toward the sample as taught in Hiramoto [158].

As per claims 9,14, both Sukeyoshi [JP 468] and Hiramoto [158] teach the heating means being a linear heater positioned on a surface of the window. See

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Sukeyoshi [JP 468] abstract, figs. 1-4, and pages 1 and 2. See Hiramoto [158] figs. 7,9-10, col. 10 lines 5-20 and col.13 lines 20-35.

As per claims 10,15, both Sukeyoshi [JP 468] and Hiramoto [158] teach the heating means being an incandescent bulb. See Sukeyoshi [JP 468] fig. 4 and page 2. Also see Hiramoto [158] fig. 9 and col. 10 lines 50-65.

As per claim 11, Hiramoto [158] teaches the reflecting mirror (16) adapted to transfer heat from the incandescent bulb to the window. See Hiramoto [158] figs. 9,11, col. 9 lines 1-25, col. 10 lines 45-65, col. 12 lines 55-67, and col. 14 lines 20-35.

### ***Response to Arguments***

Applicant's arguments with respect to claims 6-15 have been considered but are moot in view of the new ground(s) of rejection. In addition, the examiner would like to point out that both Koji [079] and Sukeyoshi [JP 468] do heat the window due to the inherent property of light. When the UV light shines/irradiates on or passes through the window, it inherently heats the window if even to a small degree.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent No. 5,129,944 to Ebbing et al, and 5,763,892 to Kizaki et al are considered pertinent because on a dielectric discharge barrier lamp and cooling means for its window. Ebbing [944] is considered pertinent because of its teaching of a heating means being provided on both sides of the window. Kizaki [892] is considered pertinent because of its discussion on an ultraviolet irradiator for

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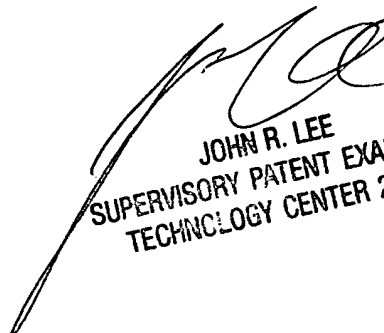
substrate, substrate treatment system, and method of irradiating substrates with ultraviolet light.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Quash whose telephone number is (703)-308-6555. The examiner can normally be reached on M-F from 9 a.m. to 5 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R. Lee, can be reached on (703)-308-4116. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)-308-0956.



A. Quash 7/29/03



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